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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/718,042

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Olivier Divay

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EXAMINER

VO, HUYEN X

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/718,042	<b>Applicant(s)</b> DIVAY ET AL.	
	<b>Examiner</b> HUYEN X. VO	<b>Art Unit</b> 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,5-13,21 and 24-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 5-13, 21, and 24-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Response to Arguments***

1. Applicant's arguments filed 5/1/2008 have been fully considered but they are not persuasive. Nishimura et al. (USPN 6778958) fully anticipate the limitations regarding *"formatting a recognition result based on an identification of a non-verbalized punctuation mark after the non-verbalized punctuation mark has been inserted into the recognition result"* in that the process of automatically inserting non-verbalized punctuation marks (e.g. commas and periods) into the recognition results is considered the same as formatting because the recognition results are now modified into structured sentences and clauses as opposed to fragmented individual words before the insertion (refer to col. 5, lines 30-32 and lines 57-67). Nishimura et al. also disclose the limitation regarding *"the non-verbalized punctuation mark is predicted using at least one text feature and at least one acoustic feature that includes one or more of a length of period silence* (col. 5, lines 35-67, using "pause" or "silence" and recognized words to determine punctuation marks; particularly lines 17-23 relying on acoustic model to determine punctuation mark; and lines 57-67 relying on language models (text) to determine punctuation marks). The only feature that Nishimura et al. lack is the *"acoustic feature [is] a function of pitch of words near the period of silence"*. However, Rorex (US 7089184) teach that the acoustic feature is a function of pitch of words near the period of silence (col. 10, lines 17-27, *tonality or pitch information is used to determine punctuation marks*).

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2. In response to applicant's argument regarding "Franz never suggests that punctuation is listed in the utterance hypotheses were non-verbalized" and the "non-verbalized punctuation mark is corrected" (page 6 of the REMARKS section), these two features are not claimed in claim 10. There is no clear indication in the claim 10 that a list of hypotheses **must** include punctuation marks. Specifically, claim 10 only recites "selecting a portion of the recognition result to be corrected that includes the non-verbalized punctuation mark". In other words, the selected portion includes punctuation mark. And Franz teaches this feature (figure 13, element 1304 includes a "period", and this period is not uttered by the speaker). Also, there is no clear indication in the claim that the "non-verbalized punctuation mark" **must** be corrected as argued. Rather, the claim specifically recites, "correcting the portion of the recognition result that includes the non-verbalized punctuation mark with one of a number of correction choices". Franz fully anticipates this limitation in that a list of hypotheses is presented for user's selection (figure 13).

3. In response to applicant's argument regarding Rorex not being combinable with Nishimura, Rorex is only relied upon for the teaching of "acoustic feature includes a function of pitch of words near the period of silence" and nothing else.

4. Previous office action has been withdrawn in favor of a new non-final office action due to examiner's use of a new reference for claim 11.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 5-6, 13, 21, and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (US 6778958) in view of Rorex (US 7089184).

7. Regarding claims 1 and 13, Nishimura et al. disclose a method and apparatus (figure 2) of recognizing punctuation in computer-implemented speech recognition, the method comprising:

performing speech recognition on an utterance to produce a recognition result for the utterance (*col. 5, lines 5-34 or figure 2*);

identifying a non-verbalized punctuation mark in a recognition result (*col. 5, lines 5-34 or figure 2*) including predicting the non-verbalized punctuation mark using at least one text feature and at least one acoustic feature related to the utterance (*col. 5, lines 35-67, using "pause" or "silence" and recognized words to determine punctuation marks; particularly lines 17-23 relying on acoustic model to determine punctuation mark; and lines 57-67 relying on language models (text) to determine punctuation marks*);

inserting the non-verbalized punctuation mark into the recognition result (*col. 5, lines 48-67, inserting punctuation mark into the recognition result*); and

formatting the recognition result based on the identification of the non-verbalized punctuation mark after the non-verbalized punctuation mark has been inserted in the recognition result (*refer to col. 5, lines 30-32 and lines 57-67; the recognition results is considered the same as formatting because the recognition results are now modified into structured sentences and clauses as opposed to fragmented individual words before the insertion*);

wherein the acoustic feature includes one or more of a length of a period of silence (*col. 5, lines 35-67, using "pause" or "silence" and recognized words to determine punctuation marks*).

Nishimura et al. fail to specifically disclose that the acoustic feature include a function of pitch of words near the period of silence. However, Rorex (US 7089184) teach that the acoustic feature includes a function of pitch of words near the period of silence (*col. 10, lines 17-27, tonality or pitch information is used to determine punctuation marks*).

Since Nishimura et al. and Rorex are analogous art because they are from the same field of endeavor, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Nishimura et al. by incorporating the teaching of Rorex in order to improve non-verbalized punctuation recognition accuracy.

8. Regarding claims 21 and 26, Nishimura et al. disclose a method and apparatus (figure 2) of recognizing punctuation in computer-implemented speech recognition dictation, the method comprising:

performing speech recognition on an utterance to produce a recognition result for the utterance (*col. 5, lines 5-34 or figure 2*);

identifying a non-verbalized punctuation mark in a recognition result (*col. 5, lines 5-34 or figure 2*); and

determining where to insert the non-verbalized punctuation mark within the recognition result based on the identification using at least one text feature and at least one acoustic feature related to the utterance to predict where to insert the non-verbalized punctuation mark (*col. 5, lines 5-34 or figure 2, using pause/silence to determine punctuation marks*); and

inserting the non-verbalized punctuation mark into the recognition result (*col. 5, lines 48-67, inserting punctuation mark into the recognition result*); and

wherein the acoustic feature includes one or more of a length of a period of silence (*col. 5, lines 35-67, using "pause" or "silence" and recognized words to determine punctuation marks*).

Nishimura et al. fail to specifically disclose that the acoustic feature include a function of pitch of words near the period of silence. However, Rorex (US 7089184) teach that the acoustic feature includes a function of pitch of words near the period of silence (*col. 10, lines 17-27, tonality or pitch information is used to determine punctuation marks*).

Since Nishimura et al. and Rorex are analogous art because they are from the same field of endeavor, it would have been obvious to one of ordinary skill in the art at

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the time of invention to modify Nishimura et al. by incorporating the teaching of Rorex in order to improve non-verbalized punctuation recognition accuracy.

9. Regarding claims 5-6 and 24-25, Nishimura et al. fail to specifically disclose the method as in claims 1 and 21, respectively, wherein the acoustic feature includes an average pitch of words near the period of silence, and wherein the acoustic feature includes a ratio of an average pitch of words near the period of silence. However, Rorex teaches wherein the acoustic feature includes an average pitch of words near the period of silence, and wherein the acoustic feature includes a ratio of an average pitch of words near the period of silence (*col. 10, lines 17-27, tonality or pitch information is used to determine punctuation marks*).

Since Nishimura et al. and Rorex are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Nishimura et al. by incorporating the teaching of Rorex in order to improve punctuation recognition accuracy.

10. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (US 6778958) in view of Rorex (US 7089184), and further in view of Kolster (US 5920877).

11. Regarding claims 7-9, Nishimura et al. fail to specifically disclose the method as in claim 1 wherein formatting the recognition result includes controlling or altering



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spacing relative to the non-verbalized punctuation mark, wherein formatting the recognition result includes controlling or altering capitalization of words relative to the non-verbalized punctuation mark, and wherein the non-verbalized punctuation mark includes a period, and formatting the recognition result includes inserting an extra space after the period and capitalizing a next word following the period. However, Kolster teaches wherein formatting the recognition result includes controlling or altering spacing relative to the non-verbalized punctuation mark (*col. 11, lines 38-50*), wherein formatting the recognition result includes controlling or altering capitalization of words relative to the non-verbalized punctuation mark (*col. 11, lines 38-50*), and wherein the non-verbalized punctuation mark includes a period, and formatting the recognition result includes inserting an extra space after the period and capitalizing a next word following the period (*col. 11, lines 38-50*).

Since Nishimura et al. and Kolster are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Nishimura et al. by incorporating the teaching of Kolster in order to put the received text into organized structure to make good presentation.

12. Claims 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (US 6778958) in view of Franz et al. (US 6356865).

13. Regarding claim 10, Nishimura et al. disclose a method of recognizing punctuation in a computer-implemented speech recognition, the method comprising:

performing speech recognition on an utterance to produce a recognition result for the utterance (*col. 5, lines 5-34 or figure 2*);

identifying a non-verbalized punctuation mark in a recognition result (*col. 5, lines 5-34 or figure 2*);

formatting the recognition result based on the identification (*refer to col. 5, lines 30-32 and lines 57-67; the recognition results is considered the same as formatting because the recognition results are now modified into structured sentences and clauses as opposed to fragmented individual words before the insertion*).

Nishimura et al. fail to specifically disclose selecting a portion of the recognition result to be corrected that includes the non-verbalized punctuation mark; and correcting the portion of the recognition result that includes the non-verbalized punctuation mark with one of a number of correction choices. However, Franz et al. teach selecting a portion of the recognition result to be corrected that includes the non-verbalized punctuation mark (*the operation of figure 13; the non-verbalized punctuation is the silence or pause portion taught in Nishimura reference; the selecting in Franz include silence portion between two words in figure 13*); and correcting the portion of the recognition result that includes the non-verbalized punctuation mark with one of a number of correction choices (*the operation of figure 13*).

Since Nishimura et al. and Franz et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Nishimura et al. by incorporating the teaching of Franz et al. in order to speech recognition accuracy.

14. Regarding claim 12, Nishimura et al. fail to specifically disclose the method as in claim 10 wherein at least one of the correction choices does not include the non-verbalized punctuation mark. However, Franz et al. teach at least one of the correction choices does not include the non-verbalized punctuation mark (*figure 13*).

Since Nishimura et al. and Franz et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Nishimura et al. by incorporating the teaching of Franz et al. in order to speech recognition accuracy by enabling users to correct misrecognized words.

15. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (US 6778958) in view of Franz et al. (US 6356865), and further in view of Roth et al. (US 7313526).

16. Regarding claim 11, the modified Nishimura et al. fail to specifically disclose the method as in claim 10 wherein at least one of the correction choices includes a change to the non-verbalized punctuation mark. However, Roth et al. further teach that at least one of the correction choices includes a change to the non-verbalized punctuation mark (*figures 33-34, elements 3302-3304 and 1124 and 3418; selecting type of punctuation*).

Since the modified Nishimura et al. and Roth et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of

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ordinary skill in the art at the time of invention to modify Nishimura et al. by incorporating the teaching of Roth et al. in order to speech recognition accuracy by enabling users to correct misrecognized words.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUYEN X. VO whose telephone number is (571)272-7631. The examiner can normally be reached on M-F, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on 571-272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Huyen X Vo/  
Primary Examiner, Art Unit 2626

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